

Having thus described the invention, what is claimed is:

1. An electronic communications system for the deaf comprising:

- (a) a video apparatus for visually observing the images of facial and hand and finger signing motions of a deaf person and converting the observed signing motions into digital identifiers;
- (b) means for translating said digital identifiers of said observed signing motions into words and phrases;
- (c) means for outputting said words and phrases generated by the visual observation of said signing motions in a comprehensible form to another person;
- (d) a receiver for receiving spoken words and phrases of another person and transmitting them;
- (e) means for translating said spoken words and phrases into a visual form which may be observed by the deaf person; and
- (f) means for outputting said visual form of said spoken words and phrases on said video apparatus for viewing by the deaf person.

2. The electronic communications system in accordance with claim 1 wherein said another person is at a remote location.

3. The electronic communications system in accordance with claim 1 wherein said video apparatus includes a video camera and image capture and processing hardware and software.

4. The electronic communications system in accordance with claim 1 wherein said translating means is located at a central station with which said video apparatus and said receiver and outputting means are in communication.

5. The electronic communications system in accordance with claim 1 wherein said translating means also includes artificial intelligence for interpreting and converting the translated signing motions into words and phrases and into coherent sentences.

6. The electronic communications system in accordance with claim 5 wherein said outputting means converts said coherent sentences into synthetic speech.

7. The electronic communications system in accordance with claim 1 wherein said outputting means converts said spoken words and phrases into written form.

8. The electronic communications system in accordance with claim 1 wherein said video apparatus includes a display screen.

9. The electronic communications system in accordance with claim 8 wherein said video apparatus provides an output of said spoken words and phrases as signing motions on said display screen for viewing by the deaf person.

10. The electronic communications system in accordance with claim 1 wherein said video apparatus includes a display screen to provide an output of said spoken words and phrases as signing motions on said display screen for viewing by the deaf person, and wherein said video apparatus includes a microphone and speaker whereby a deaf person may communicate with another person in the immediate vicinity.

11. The electronic communications system in accordance with claim 10 wherein said translating means is located at a central station with which said video apparatus and said receiver and outputting means are in communication.

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12. In a method for electronic communication for the deaf comprising:

- (a) visually observing the images of facial and hand and finger signing motions of a deaf person and converting the observed signing motions into digital identifiers;
- (b) translating said digital identifiers of said observed signing motions into words and phrases;
- (c) outputting said words and phrases in a comprehensible form to another person;
- (d) receiving speech from said another person;
- (e) translating said speech of said another person into signing motions; and
- (f) displaying said signing motions representing said speech to said deaf person.

13. The electronic communications method in accordance with claim 12 wherein said another person is at a remote location.

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14. The electronic communication method in accordance with claim 13 wherein said step of outputting at a remote location is effected by transmission of said translated words and phrases to a communications device receiver at said remote location.

15. The electronic communication method in accordance with claim 12 wherein said step of observing and converting the signing motions is effected by a video camera.

16. The electronic communication method in accordance with claim 12 including the step of transmitting said digital identifiers of said motions and said speech electronically to a central station where said translating steps are performed.

17. The electronic communication method in accordance with claim 12 wherein said outputting step provides such words and phrases as synthetic speech.

18. The electronic communication method in accordance with claim 12 wherein said outputting step provides said words and phrases in written form to said another person.

19. The electronic communication method in accordance with claim 12 wherein said displaying step provides said words and phrases in written form.

20. The electronic communication method in accordance with claim 12 wherein said translating step utilizes artificial intelligence.

21. The electronic communication method and software in accordance with claim 20 wherein said intelligence is developed with the use of multiple neural networks automatically created and assigned by gesture type.

22. The electronic communication method in accordance with claim 12 wherein said another person and said displaying step are at the same location as said deaf person and wherein said visually observing and converting step utilizes a video apparatus.

23. The electronic communication method in accordance with claim 22 wherein said receiver and outputting steps are conducted by components of an installation including said video apparatus.

24. The electronic communication method in accordance with claim 22 wherein said translating steps are conducted at a remote center.

25. The electronic communication method in accordance with claim 12 wherein said translating steps are conducted at a remote center.

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26. An electronic communications system for the deaf comprising:

- (a) a video apparatus for visually observing the images of facial and hand and finger signing motions of a deaf person and converting the observed signing motions into digital identifiers;
- (b) means for translating said digital identifiers of said observed signing motions into words and phrases;
- (c) means for outputting said words and phrases generated by the visual observations of said signing motions in a comprehensible form to another person;
- (d) a receiver for receiving spoken words and phrases of another person and transmitting them;
- (e) means for translating said spoken words and phrases into signing motions which may be observed by the deaf person; and
- (f) means for outputting said signing motions on said video apparatus for viewing by the deaf person, said translating means being located at a central station with which said video apparatus and receiver are in communication.

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27. An electronic communications system for the deaf in accordance with claim 26 wherein said another person is at a remote location.

28. An electronic communications system for the deaf in accordance with claim 26 wherein said video apparatus includes a video camera and image capture and processing hardware and software.

29. An electronic communications system for the deaf in accordance with claim 26 wherein said translating means also includes artificial intelligence for interpreting and converting the translated motions into words and phrases into coherent sentences.

30. An electronic communications system for the deaf in accordance with claim 28 wherein said outputting means converts said coherent sentences into synthetic speech.

31. An electronic communications system for the deaf in accordance with claim 26 wherein said video apparatus includes a display screen.

32. An electronic communications system for the deaf in accordance with claim 26 wherein said video apparatus includes a display screen to provide an output of said spoken words and phrases as signing motions on said display screen for viewing by the deaf person, and wherein said video apparatus includes a microphone and speaker whereby a deaf person may communicate with another person in the immediate vicinity.

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